

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Appellants:

Andrew J. Dosmann and
Frank W. Wogoman

Customer No. 71331

Application No. 10/750,271

Confirmation No. 1709

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Art Unit: 1797

For: OPTICAL FORMAT

Examiner: Neil N. Turk

Mail Stop Appeal Brief – via EFS
COMMISSIONER FOR PATENTS
Alexandria, VA 22313-1450

APPEAL BRIEF PURSUANT TO 37 C.F.R. § 41.37

Dear Commissioner:

This Appeal Brief is filed pursuant to the Appellants' appeal to the Board of Patent Appeals and Interferences (hereinafter "Board") from the final rejection of claims 1-10, 24-29, 31, 32, and 34-43 in a March 5, 2010 final Office action (hereinafter "Final Action"). A Notice of Appeal was filed on June 7, 2010.

The due date for this Appeal Brief is two months from the electronic filing date of the Notice of Appeal. Thus, this Appeal Brief is timely.

I. REAL PARTY IN INTEREST

The real party in interest is Bayer HealthCare LLC, the assignee of record, having a place of business at 555 White Plains Road, Tarrytown, New York 10591, which is a subsidiary under the holding company, Bayer AG.

II. RELATED APPEALS AND INTERFERENCES

There are no other known appeals or interferences that will directly affect, be directly affected by, or have a bearing on the Board of Patent Appeals and Interferences in the present appeal.

III. STATUS OF CLAIMS

Claims 1-10, 24-29, 31, 32, and 34-43 are currently pending and rejected in the above-referenced application, and are the subject of the present appeal. Claims 11-23, 30, and 33 were previously cancelled. No claims have been allowed.

IV. STATUS OF AMENDMENTS

The claims are as currently listed in an Amendment and Request for Reconsideration filed on November 17, 2009.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Illustrative examples are provided below for each of the independent claims. Reference is provided to figures, pages, and line numbers of Appellants' specification, which is also published as U.S. Publication No. 2004/0142370 A1 (hereinafter "Dosmann").

1. INDEPENDENT CLAIM 1

Independent claim 1 is directed to a format (e.g., 10) for optical analysis of samples. The format (e.g., 10) includes, *inter alia*, an illumination input area (e.g., 12). (See, e.g., FIGS. 1 and 3-5; page 4, line 20 – page 5, line 7; page 7, line 19 – page 8, line 30). An illumination light guide (e.g., 18) is in optical communication with the illumination input area (e.g., 12). (See, e.g., FIGS. 1, 2, 3, and 5; page 4, line 27 – page 5, line 17). A read window (e.g., 32) is disposed approximately perpendicular to a longitudinal axis of the illumination light guide (e.g., 18). (See, e.g., FIGS. 1 and 3; page 6, lines 21-31). A detection guide (e.g., 40) has one end proximate the read window (e.g., 32) and a second end forming a detection output (e.g., 42). (See, e.g., FIG. 1; page 7, lines 8-26). The illumination light guide (e.g., 18), the read window (e.g., 32), and the detection guide (e.g., 40) define a light pathway. (See, e.g., FIG. 1; page 7, lines 19-26). An overillumination redirection component (e.g., 20) is located adjacent to and in optical communication with the illumination input area (e.g., 12) and the illumination light guide (e.g., 18). (See, e.g., FIGS. 1, 2, 4, and 5; page 5, lines 4-14; page 5, line 18 – page 6, line 15). The overillumination redirection component (e.g., 20) comprises four overillumination redirection facets (e.g., 22, 24, 26, 28) disposed about an outside perimeter of the illumination light guide (e.g., 18). (See, e.g., FIGS. 2 and 4; page 5, line 18 – page 6, line 15; page 8, lines 4-6). The overillumination redirection facets (e.g., 22, 24, 26, 28) are configured to direct overilluminating light away from the light pathway. (See, e.g., page 5, line 18 – page 6, line 15; page 7, lines 19-26).

2. INDEPENDENT CLAIM 25

Independent claim 25 is directed to a format (e.g., 10) for optical analysis of samples. The format (e.g., 10) includes, *inter alia*, an illumination input area (e.g., 12). (See, e.g., FIGS. 1

and 3-5; page 4, line 20 – page 5, line 7; page 7, line 19 – page 8, line 30). An illumination light guide (e.g., 18) is in optical communication with the illumination input area (e.g., 12). (*See, e.g.*, FIGS. 1, 2, 3, and 5; page 4, line 27 – page 5, line 17). The illumination light guide (e.g., 18) comprises four sides defining an outside perimeter of the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 2 and 4; page 5, line 18 – page 6, line 15; page 8, lines 4-6). A read window (e.g., 32) is proximate to one end of the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 1 and 3; page 6, lines 21-31). A detection guide (e.g., 40) has one end proximate the read window (e.g., 32) and a second end forming a detection output (e.g., 42). (*See, e.g.*, FIG. 1; page 7, lines 8-26). Four overillumination redirection facets (e.g., 22, 24, 26, 28) are located proximate to and in optical communication with the illumination input area (e.g., 12) and the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 1, 2, and 4; page 5, line 3 – page 6, line 15). The four overillumination redirection facets (e.g., 22, 24, 26, 28) substantially surround the outside perimeter of the illumination light guide (e.g., 18) such that each overillumination redirection facet (e.g., 22, 24, 26, 28) is adjacent to and in optical communication with a corresponding side of the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 1, 2, 4, and 5; page 5, line 18 – page 6, line 15; page 7, lines 19-26; page 8, lines 4-6).

3. INDEPENDENT CLAIM 29

Independent claim 29 is directed to a format (e.g., 10) for optical analysis of samples. The format (e.g., 10) includes, *inter alia*, an illumination input area (e.g., 12). (*See, e.g.*, FIGS. 1 and 3-5; page 4, line 20 – page 5, line 7; page 7, line 19 – page 8, line 30). An illumination light guide (e.g., 18) is in optical communication with the illumination input area (e.g., 12). (*See, e.g.*, FIGS. 1, 2, 3, and 5; page 4, line 27 – page 5, line 17). A read window (e.g., 32) is disposed along a light pathway. (*See, e.g.*, FIGS. 1 and 3; page 6, lines 21-31). A detection guide (e.g.,

40) has one end proximate the read window (e.g., 32) and a second end forming a detection output (e.g., 42). (*See, e.g.*, FIG. 1; page 7, lines 8-26). The illumination light guide (e.g., 18), the read window (e.g., 32), and the detection guide (e.g., 40) define the light pathway. (*See, e.g.*, FIG. 1; page 7, lines 19-26). Four overillumination facets (e.g., 22, 24, 26, 28) are located adjacent to and in optical communication with the illumination input area (e.g., 12) and the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 1, 2, and 4; page 5, line 3 – page 6, line 15). The overillumination facets (e.g., 22, 24, 26, 28) are disposed at acute angles relative to the light pathway and configured to direct overilluminating light away from the light pathway. (*See, e.g.*, FIGS. 1, 2, 4, and 5; page 5, line 18 – page 6, line 15; page 7, lines 19-26; page 8, lines 4-6).

4. INDEPENDENT CLAIM 34

Independent claim 34 is directed to a format (e.g., 10) for optical analysis of samples. The format (e.g., 10) includes, *inter alia*, an illumination light guide (e.g., 18) adjacent to an illumination input area (e.g., 12). (*See, e.g.*, FIGS. 1, 2, 3, and 5; page 4, line 27 – page 5, line 17). The illumination light guide (e.g., 18) has an outside perimeter. A detection guide (e.g., 40) has a first detection end proximate a read window (e.g., 32) and a second detection end forming a detection area. (*See, e.g.*, FIG. 1; page 7, lines 8-26). An overillumination redirection component (e.g., 20) is proximate the illumination input area (e.g., 12) and substantially surrounds the outside perimeter of the illumination light guide (e.g., 18). (*See, e.g.*, FIGS. 1-5; page 4, line 27 – page 6, line 15; page 8, lines 4-6). The overillumination redirection component (e.g., 20) comprises one or more overillumination redirection facets (e.g., 22, 24, 26, 28). (*See, e.g.*, FIGS. 1-5; page 5, line 3 – page 6, line 15). Each overillumination redirection facet (e.g., 22, 24, 26, 28) is disposed at an acute angle relative to a light pathway defined by the illumination light guide (e.g., 18), the read window (e.g., 32), and the detection guide (e.g., 40).

(*See, e.g.*, FIGS. 2 and 5) The overillumination redirection component (e.g., 20) is configured to direct overilluminating light away from the light pathway. (*See, e.g.*, FIGS. 1, 2, 4, and 5; page 5, line 18 – page 6, line 15; page 7, lines 19-26; page 8, lines 4-6).

5. DEPENDENT CLAIMS 35 AND 36

Dependent claim 35 is directed to the features of independent claim 34 along with the illumination light guide (e.g., 18) having a polygonal cross-section comprising a plurality of sides that define the outside perimeter. (*See, e.g.*, FIGS. 2 and 4; page 5, line 3 – page 6, line 15; page 8, lines 4-8).

Dependent claim 36 is directed to the features of dependent claim 35 along with each side bordering a corresponding overillumination redirection facet (e.g., 22, 24, 26, 28). (*See, e.g.*, FIGS. 2 and 4; page 5, line 3 – page 6, line 15; page 8, lines 4-8).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1-10, 24-29, 31, 32, and 34-43 are unpatentable under 35 U.S.C. § 112, first paragraph, as not being enabled over the entire scope of the claims.
2. Whether the specification provides proper antecedent basis for the subject matter of claims 1, 25, and 34-36.

VII. ARGUMENTS

The rejection of claims 1-10, 24-29, 31, 32, and 34-43 as not being enabled should be reversed for several reasons. The Examiner has improperly alleged that the “specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make/use the invention commensurate in scope” with claims 1-10, 24-29, 31, 32, and 34-43. (*See* Final Action, at 3).

A. THE EXAMINER IS IMPROPERLY REQUIRING THAT ADDITIONAL FEATURES FROM THE SPECIFICATION BE ADDED TO THE REJECTED CLAIMS

Claims 1-10, 24-29, 31, 32, and 34-43 have been improperly rejected as not being enabled over the entire scope of the claims. That is, the Examiner has rejected the claims, and has further improperly alleged that the claims can only be enabled by adding certain unclaimed features to the rejected claims.

For claims 1-10, 24, 42, and 43, the Examiner has improperly alleged that the claims can only be enabled by the **addition of** the following elements disclosed in the specification:

- (A) a detection guide disposed approximately parallel to the illumination light guide;
- (B) an illumination redirection facet between the illumination light guide and the read window; and
- (C) a detection redirection facet in the light pathway between the read window and the detection guide.

For claims 25-29, 31, and 32, the Examiner has improperly alleged that the claims can only be enabled by the **addition of** each of above elements (A)-(C) plus the following element disclosed in the specification:

- (D) a read window positioned perpendicular to the illumination light guide.

For claims 34-41, the Examiner has improperly alleged that the claims can only be enabled by the **addition of** each of above elements (A)-(D) plus the following element from the specification:

- (E) four overillumination redirection facets disposed at one or more angles relative to the input light path.

The Manual of Patent Examination Procedure (hereinafter “MPEP”) and the Federal Courts have provided instructive guidance on the issue of enablement commensurate in scope with the claims. *See, e.g.*, MPEP § 2164.08 (Rev. 6, Sept. 2007); *United States v. Telectronics, Inc.*, 857 F.2d 778 (Fed. Cir. 1986) (broader claims that allowed different types of materials were sufficiently enabled despite the specification only disclosing stainless steel); *Raytheon Co. v. Roper Co.*, 724 F.2d 951 (Fed. Cir. 1983) (it is legally unsound to require backflow prevention in claims simply because such a disclosure was included in the specification); *In re Wright*, 999 F.2d 1557, 1560 (Fed. Cir. 1993) (the examiner bears the burden of setting forth a reasonable explanation with sufficient reasons for doubting any assertions in the specification as to the scope of enablement).

The MPEP states that the determination of the propriety of a rejection based upon the scope of a claim relative to the scope of enablement involves two stages of inquiry, consisting of:

- (i) determining how broad the entire claim is with respect to the disclosure;
and
- (ii) determining if one skilled in the art is enabled to make and use the entire scope of the claimed invention without undue experimentation.

See MPEP § 2164.08, at 2100-210.

The predecessor to the Federal Circuit, the Court of Customs and Patent Appeals, has stated that the scope of enablement must only bear a “reasonable correlation” to the scope of the claims. *In re Fisher*, 427 F.2d 833, 839 (CCPA 1970). The Federal Circuit has further clarified that interpreting claims in light of the specification does not mean that everything in the specification must be read into the claims. *Raytheon*, 724 F.2d at 957. The court in *Raytheon* further stated that the argument requiring the claim to include a limitation found in the

specification was legally unsound. *Id.* The court then explained that the specification must be sufficiently explicit and complete to enable one skilled in the art to practice the invention, and that the claims, not the specification, measures the invention. *Id.*

Courts have further clarified that for technologies involving unpredictable factors, such as most chemical reactions and physiological activity, the scope of enablement obviously varies inversely with the degree of unpredictability of the factors involved – that is, technologies involving chemical reactions and physiological activity tend to have a high degree of unpredictability, and therefore, may require additional disclosures to enable the full scope of the claims. *See Telectronics*, 857 F.2d at 786 citing *In re Fisher*, 427 F.2d at 838-39.

Courts have also looked at whether an unclaimed feature is critical, and have further made such determinations by considering the entire disclosure. *See, e.g., In re Goffe*, 542 F.2d 564, 567-68 (CCPA 1976). For example, the Court of Customs and Patent Appeals has explained that “[b]road language in the disclosure (including the abstract) omitting an allegedly critical feature tends to rebut the argument of criticality.” *Id.*

i. The Examiner Ignores Broadening Language in the Specification and Relevant Controlling Law, and Thus, Fails to Meet the Initial Burden of Setting Forth Why Certain Unclaimed Features are Required to Enable Improperly Rejected Claims 1-10, 24-29, 31, 32, and 34-43

“When rejecting a claim under the enablement requirement of Section 112, the PTO bears an initial burden of setting forth a reasonable explanation as to why it believes that the scope of protection provided by that claim is not adequately enabled by the description of the invention provided in the specification of the application; this includes, of course, providing sufficient reasons for doubting any assertions in the specification as to the scope of enablement.” *In re Wright*, 999F.2d at 1561-62 (emphasis added).

As a preliminary matter, the Federal Circuit has suggested it to be instructive to review the technology of the present application. *See Telectronics*, 857 F.2d at 786. The technology at issue in this appeal relates to optical analysis of fluids using a molded optical format. For technologies involving unpredictable factors, such as most chemical reactions and physiological activity, the scope of enablement obviously varies inversely with the degree of unpredictability of the factors involved. *See Telectronics*, 857 F.2d at 786 *citing In re Fisher*, 427 F.2d at 838-39. Here, the Examiner has never suggested that the area of technology is particularly complex or unpredictable. *See, e.g., In re Goffe*, 542 F.2d 564, 566 (CCPA 1976) (finding the PTO's objection to be insufficient that undue experimentation would be required to determine a suitable material). Furthermore, the case law cited in MPEP § 2164.08 identifies ample support that holdings finding lack of enablement for the scope of the claims is limited to matters involving either chemical reactions, physiological activity, or biotechnology fields, rather than cases involving mechanics or optics. Thus, because the technology in this case has not been suggested to involve unpredictable factors, any alleged rejection of the appealed claims based on a lack of enablement of the scope of the claims should be immediately considered suspect.

Turning now to Examiner's rejection, a review of the arguments for claims 1-10, 24-29, 31, 32, and 34-43 (*see* Final Action, at 3-6) shows the rejection to be legally unsound because the arguments are erroneously premised on reading the specification into the claims, and on false conclusory allegations that one of ordinary skill in that art would somehow find the specification to be limiting. *See, e.g., Raytheon*, 724 F.2d at 956-57 (legally unsound to require backflow prevention in claims simply because such a disclosure was included in the specification). For example, the Examiner asserts:

First, Applicant's specification does not envision any optical format in which the detection guide is not disposed approximately parallel to the illumination light

guide. Secondly, the illumination redirection facet 30 and detection redirection facet 38 are necessary for the format of claim 1, as Applicant's specification does not envision any optical format in which the light may be guided around without the provision of facets 30 and 38...Applicant's specification does not provide broad support to such a format which does not utilize these facets...Applicant's disclosure is solely directed to the optical format in which facets 30 and 38 are necessary for redirecting and guiding the light to the detection guide.

(Final Action, at 3-4).

The Examiner's entire argument is clearly premised on the prohibitions discussed in *Raytheon* – that is, the Examiner is improperly reading the specification into the claims, and seems to be basing his entire argument on what the specification allegedly does not explicitly describe. However, the focal point of any proper enablement analysis is whether the specification, as filed, supports that which is set forth in the claims, not whether the specification supports that which is not set forth in the claims. *See, e.g.*, MPEP 2164.08. In fact, an applicant is *not* required to limit his claims solely to “what he has found will work or to materials which meet the guidelines specified for ‘preferred’ materials;” to demand otherwise “would not serve the constitutional purpose of promoting progress in the useful arts.” *Ex parte Shinozaki*, Appeal No. 1999-0465 (BPAI 2001) *citing In re Goffe*, 542 F.2d 564, 567 (CCPA 1976). That is, the specification need not contain specific examples of every possible embodiment “if the invention is otherwise disclosed in such manner that one skilled in the art will be able to practice it without an undue amount of experimentation. MPEP 2164.02 *citing In re Borkowski*, 422 F.2d 904, 908 (CCPA 1970). “All that is necessary is that one skilled in the art be able to practice the claimed invention, given the level of knowledge and skill in the art.” *See id.*; *see also*, MPEP 2164.08.

The Examiner also **fails to provide reasonable assertions** or recitations from the specification stating, for example, that the features disclosed in the rejected claims are described as being **critical** or **required** to the claimed formats. *See, e.g., In re Wright*, 999F.2d at 1561-62.

Rather, the Examiner's entire argument is falsely premised on trying to limit the claim scope to certain exemplary embodiments disclosed in the specification, without providing any sufficient reasons to support the broad conclusions.

Furthermore, the Examiner **ignores and/or simply disregards specification language** stating that the claims are not to be limited to the particular forms disclosed in the specification. For example, the specification recites:

[0016] While the invention is susceptible to various modifications and alternative forms, specific embodiments are shown by way of example in the drawings and will be described in detail herein. However, it should be understood that the invention is not intended to be limited to the particular forms disclosed. Rather, the invention is to cover all modifications, equivalents, and alternatives falling within the spirit and scope of the invention as defined by the appended claims.

[...]

[0029] While the present invention has been described with reference to one or more particular embodiments, those skilled in the art will recognize that many changes may be made thereto without departing from the spirit and scope of the present invention. For example, while the present invention has been generally described as directed to medical applications it is to be understood that any optical fluid testing applications might employ the principles of the invention. Each of these embodiments and obvious variations thereof is contemplated as falling within the spirit and scope of the claimed invention, which is set forth in the following claims.

(Dosmann, at ¶¶ [0016], [0029]) (emphasis added).

The Examiner further **ignores** the “SUMMARY OF THE INVENTION” section, which directly rebuts the Examiner's allegations. The “SUMMARY OF THE INVENTION” section includes broad language that omits the allegedly critical features, and thus, directly rebuts the Examiner's erroneous assertion that unclaimed elements (A)-(C), (D), or (E) are necessary for claims 1-10, 24-29, 31, 32, and 34-43 to be enabled. *See In re Goffe*, 542 F.2d at 567 (emphasis added). The “SUMMARY OF THE INVENTION” recites:

[0008] According to one embodiment of the present invention, a single waveguiding optical format accepts illumination, directs the illumination through a fluid sample, and further directs the resulting output light out of the format and toward a detector.

[0009] According to another embodiment of the present invention, a molded optical format for optical analysis of low-volume fluid samples comprises an illumination input and an illumination guide which accepts light from the illumination input and directs it toward an optical read window. The format further includes a detection guide which guides the light toward a detection output, where the light is emitted from the format and directed toward a detector.

[0010] According to still another embodiment of the present invention, a method for performing optical analysis of a fluid uses a single optical format to collect and store a fluid sample and further directs light through the format and fluid sample and then out of the format. Overillumination redirection facets redirect overilluminating light away from the format.

(Dosmann, at ¶¶ [0008]-[0010]).

That is, none of the embodiments recited in the “SUMMARY OF THE INVENTION” section includes the unclaimed features that are erroneously alleged by the Examiner to be necessary to enable the improperly rejected claims.

Reversal of the Examiner’s rejection of claims 1-10, 24-29, 31, 32, and 34-43 is respectfully requested at least upon these grounds.

ii. The Examiner’s Own Statements Regarding Alternatives Are Suggestive Of Modifications That Would Be Known To One Of Ordinary Skill In The Art, and Thus, Refute the Improper Rejection of Claims 1-10, 24-29, 31, 32, and 34-43

In rejecting claims 1-10, 24-29, 31, 32, and 34-43, the Examiner asserts that “[t]he specification does not describe an optical fiber or other light-guiding media which is curved and positioned so as to guide light around the absent the facets.” (See Final Action, at 4). The Examiner’s assertions suggest that the Examiner – who is presumed to have at least some knowledge of the art – was readily able to identify alternatives or modifications to a format that

does not require a detection guide disposed approximately parallel (e.g., curved optical fiber) to the illumination light guide and a format that does not require illumination/detection redirection facets (e.g., a format comprising optical fiber). That is, the Examiner's own statements support reversal of the improper rejections because these statements are suggestive that one skilled in the art¹ would be able to practice the claimed invention without an undue amount of experimentation.

Thus, reversal of the Examiner's rejection of claims 1-10, 24, 42, and 43 along with a partial reversal of the Examiner's rejection of claims 25-29, 31, 32, and 34-41 is respectfully requested at least upon these grounds.

iii. Despite Explicit Specification Language To The Contrary, The Examiner Erroneously Attempts To Limit Claims 34-41 To "Four Overillumination Redirection Facets"

As discussed above in subparagraph VII.A.i, the Examiner has improperly ignored and/or disregarded (i) specification language stating that the claims are not to be limited to the particular forms disclosed in the specification, and (ii) broad specification language that omits certain features alleged to be critical to the claimed format.

In rejecting claims 34-41, the Examiner noted that "paragraph [0019] of Applicant's pre-grant publication recites, 'More or fewer [overillumination] redirection facets may be employed as required by specific optical formats.'" (Final Action, at 5). While the Examiner seems to acknowledge certain broadening language in the specification, he then, in a conclusory manner, discounts the language as being non-enabling of "one or more overillumination redirection

¹ The Appellants are not proffering that the Examiner represents one of ordinary skill in the art. Rather, the Appellants are merely stating that the Examiner has at least some knowledge of the art and that a person of ordinary skill in the art is likely to possess some of the knowledge expressed in the above text, as well.

facets”, as recited from rejected independent claim 34. The Examiner improperly alleges that claims 34-41 are only enabled with the **addition of** each of elements (A)-(D) plus the unclaimed feature: four overillumination redirection facets disposed at one or more angles relative to the input light path. (*See* Final Action, at 4-6).

However, the Examiner ignores paragraphs [0008]-[0010], [0016], and [0029] (*see* Dosmann) and the controlling law, which generally rejects that everything expressed in the specification must be read into the claims, particularly for areas of technology that are not considered to be complex or not considered to be unpredictable. *See, e.g., Raytheon*, 724 F.2d at 956-57; *In re Wright*, 999 F.2d at 1560. The Examiner also ignores controlling law that broad language in the disclosure omitting an allegedly critical feature tends to rebut the argument of criticality. *See, e.g., In re Goffe*, 542 F.2d at 567.

Furthermore, the Examiner then appears to suggest that paragraph [0025] of the Appellant’s pre-grant publication could be read to disclose an optical format having one overillumination redirection facet. (*See* Final Action, at 5-6). That is, the Examiner appears to suggest that FIG. 3 of the specification discloses a format embodiment having one overillumination redirection facet, and that the remainder of the specification discloses a format embodiment having four overillumination redirection facets. (*Id.*) However, the Examiner then states that the specification “does not provide enabling disclosure to the case where one overillumination redirection facet is utilized”. (*See* Exhibit B, at 6). That is, the Examiner’s suggestions and subsequent conclusion contradict each other.

Claim 34 recites, *inter alia*, an “overillumination redirection component comprising one or more overillumination redirection facets”. The above suggestions by the Examiner of format embodiments having one and four overillumination redirection facets, in combination with the

broad language from the specification, all tend to suggest ample enabling disclosures for the improperly rejected claims – not the erroneous and contradictory conclusion reached by the Examiner.

Reversal of the Examiner's rejection of claims 34-41 is respectfully requested at least upon these grounds.

B. THE EXAMINER IS IMPROPERLY REQUIRING CLAIMS 35 AND 36 TO BE LIMITED TO ONE NARROW EMBODIMENT DISCLOSED IN THE SPECIFICATION

The Examiner erroneously rejected claims 35 and 36 as not being enabled. Claim 36 depends from claim 35, and thus, was rejected based on the features recited in claim 35. Dependent claim 35 recites: “said illumination light guide has a polygonal cross-section comprising a plurality of sides that define an outside perimeter”. The Examiner's rejection is based on erroneous allegations that the specification does not provide basis for a light guide having any sort of polygonal cross-section comprising a plurality of sides that define an outside perimeter. (*See* Final Action, at 6).

Each claim need not encapsulate every conceivable permutation of the invention to meet 112 requirements. *See* MPEP §2111.01; *Superguide Corp. v. DirecTV Enterprises, Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004); *see also, Liebel-Flarsheim Co. v. Medrad Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (discussing recent cases wherein the court expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment). “As long as the specification discloses at least one method for making and using the claimed invention that bears a reasonable correlation to the entire scope of the claim, then the enablement requirement of 35 U.S.C. 112 is satisfied.” *In re Fisher*, 427 F.2d 833, 839 (CCPA 1970) (emphasis added).

i. The Examiner Improperly Asserts that the Drawings Only Show an Illumination Light Guide having a Square Cross-Section

The Examiner asserts that FIG. 4 (*see* Dosmann) provides enabling language for the Examiner's apparent preferred narrowing limitation of an illumination light guide having a square cross-section having four sides defining an outside perimeter. (*See* Final Action, at 6). The Examiner then makes the contradictory assertion that the Applicant's specification does not provide basis for a light guide having any sort of polygonal cross-section comprising a plurality of sides that define an outside perimeter. (*Id.*) (emphasis added).

While the Appellants do not dispute that FIG. 4 enables the recitation of an illumination light guide 18 having a square cross-section, Appellant's disagree with the Examiner's apparent position that FIG. 4 enables an illumination light guide having only a square cross-section. The illumination light guide 18 illustrated in FIG. 4 could be understood, *inter alia*, to have a square or a rectangular cross-section, or to have any cross-sectional shape including four sides (e.g., a polygonal² cross-section).

Furthermore, the Examiner appears to ignore, for example, FIG. 2, which illustrates an illumination light guide 18 showing what could be understood, when observed from a similar front view as FIG. 4, to be a rectangular cross-section or a polygonal cross-section having at least some sides of a different length. That is, more than one illumination light guide embodiment is disclosed by the present application. However, the Examiner is improperly attempting to limit claims 35 and 36 to the overly narrow understanding posited in the Final Office Action. (*See, e.g.,* Final Action, at 6). In contrast to the conclusory assertions by the Examiner, the

² *See, e.g.,* The American Heritage Science Dictionary refers to the term polygonal as being the adjective form of the term polygon which is defined as a closed plane figure having three or more sides, and further states that triangles, rectangles, and octagons are all examples of polygons. *American Heritage Science Dictionary* (2002), <http://dictionary.reference.com/browse/polygon> (last visited July 28, 2010).

specification provides ample support for “said illumination light guide has a polygonal cross-section comprising a plurality of sides that define an outside perimeter”, as recited in claims 35 and 36.

Reversal of the Examiner’s rejection of claims 35 and 36 is respectfully requested at least upon these grounds.

ii. The Examiner’s Own Admissions Support that Claims 35 and 36 are Properly Enabled

As discussed above, the Examiner admits that FIG. 4 (*see* Dosmann) provides enabling language for the Examiner’s improper narrowing limitation of an illumination light guide with a square cross-section having four sides defining an outside perimeter. (*See* Final Action, at 6). However, the Examiner’s very next statement, that the Applicant’s specification does not provide basis for a light guide having any sort of polygonal cross-section comprising a plurality of sides that define an outside perimeter, contradicts the Examiner’s admission because a square cross-section is a type of “polygonal cross-section” and four sides falls within a “plurality of sides”.

The Examiner’s allegations violate Federal Circuit precedent which rejects the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment. *See Liebel-Flarsheim*, 358 F.3d at 906 (emphasis added). Furthermore, as discuss above under subheading VII.B.i, the specification in at least FIGS. 2 and 4 disclose multiple embodiments, not just one as improperly alleged by the Examiner.

Furthermore, while the rejection being appealed is based on lack of enablement, the Examiner’s position would appear to be inconsistent, and thus, run afoul with genus-species situations, as discussed in the context of anticipation. *See, e.g.*, MPEP § 2131.02 at 2100-69 (Rev. 6, Sept. 2007). For example, under the law of anticipation, it is generally understood that a

reference disclosing a species (e.g., a square cross-section comprising four sides that define an outside perimeter) anticipates a genus (e.g., a polygonal cross-section comprising a plurality of sides that define an outside perimeter). That is, the laws of anticipation generally state that a narrower species discloses a broader genus. It is undisputable that a square or a closed plane figure having four sides (e.g., species) is a polygon (e.g., genus). Therefore, the Examiner's position – that FIG. 4 does not disclose a polygonal cross-section comprising a plurality of sides that define an outside perimeter – would also appear to be inconsistent with genus-species analysis applied in the context of anticipation, wherein a narrower disclosure anticipates a broader one.

Reversal of the Examiner's rejection of claims 35 and 36 is respectfully requested at least upon these grounds.

C. THE SPECIFICATION FULLY SUPPORTS THE CLAIMED INVENTION

The Examiner also improperly objected to the specification on three grounds. First, the Examiner alleges that the specification fails to provide proper antecedent basis for the subject matter within claims 1, 25, and 34-36. In particular, despite admitting support in the drawings (see Final Action, at 2) for an illumination light guide having an outside perimeter, as generally recited in claims 1, 25, and 34, the Examiner alleges that the specification lacks antecedent for such a feature.

Second, the Examiner alleges that a first illumination end and a second illumination end are recited in claim 25. However, review of claim 25 reveals that no second illumination end is recited in claim 25. (See, e.g., Claim Appendix). Despite this shortcoming, review of at least FIG. 1, illustrates a read window 32 proximate one end of an illumination light guide 18, as generally recited in claim 25. (See Dosmann).

Third, despite admitting that FIG. 4 appears to show a square cross-section comprising four sides that define an outside perimeter of a light guide, the Examiner improperly alleges that the claims 35 and 36 lack antecedent support from the specification for an “illumination light guide having a polygonal cross-section comprising a plurality of sides that define said outside perimeter” and “wherein each side borders a corresponding overillumination redirection facet.”

Appellants respectfully traverse these objections as erroneous.

The MPEP states that any structural detail that is essential for a proper understanding of the disclosed invention can be shown in the drawings. *See* MPEP §§ 608.02(d), (e); *see, e.g.* MPEP 2163.02 (One complies with § 112, ¶1, “by such descriptive means as words, structures, figures, diagrams, formulas, etc., that fully set forth the claimed invention.) *citing Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis added). When the language of the claims departs from the nomenclature understood by those of ordinary skill in the art, in light of the specification as a whole, an applicant may be required to make amendment(s) to the specification so as to have the exact language in the specification for the terms appearing in the claims. *See, e.g.*, 37 C.F.R. § 1.75; MPEP §§ 608.01(i), 1302.01; *Ex parte Kotler*, 1901 C.D. 62 (Comm'r Pat. 1901).

Applicants' specification, as originally filed, provides clear support for the claimed features identified in claims 1, 25, and 34-36, and furthermore, the language of the claims does not depart from the nomenclature understood by those of ordinary skill in the art. For example, a person of ordinary skill in the art to which the present disclosure pertains would understand, in light of the specification as a whole, the phrase “an outside perimeter of said illumination light guide” without having the exact terms in the written description portion of the specification. The Examiner, who, as discussed earlier, is presumed to have at least some knowledge in the art (*see*,

e.g., footnote 1), admits that such a feature is supported by the drawings. (*See* Final Action, at 2).

Furthermore, a person of ordinary skill in the art would also understand the feature, a read window 32 proximate “one end” of an illumination light guide, in light of the specification as a whole without having the exact terms in the written description portion of the specification. For example, review of FIG. 1, in combination with a basic understanding of geometry, illustrates an illumination light guide 18, and a read window 32 proximate one end of the illumination light guide 18. (*See* Dosmann).

Additionally, a person of ordinary skill in the art would also understand an illumination light guide having a “polygonal cross-section comprising a plurality of sides that define said outside perimeter” by reviewing, for example, FIG. 4. (*See* Dosmann). It is well understood from basic geometry that a square, which is a type of rectangle³, is also a type of polygon.⁴ As the Examiner appears to admit an understanding of a square cross-section of four sides from FIG. 4 (*see* Final Action, at 2-3), the language “a polygonal cross-section comprising a plurality of sides”, as recited in claims 35 and 36 would be equally understood, in light of the specification as a whole. That is, while dictionary definitions are provided for square and polygon in footnotes 3 and 4 to merely provide guidance on the meaning of these terms as would have been learned in basic geometry, these meanings would be understood by one of ordinary skill in the

³ *See, e.g.*, The American Heritage Science Dictionary defines a square a rectangle having four equal sides. *American Heritage Science Dictionary* (2002), <http://dictionary.reference.com/browse/square> (last visited July 28, 2010).

⁴ *See, e.g.*, The American Heritage Science Dictionary defines a polygon as a closed plane figure having three or more sides, and further states that triangles, rectangles, and octagons are all examples of polygons. *American Heritage Science Dictionary* (2002), <http://dictionary.reference.com/browse/polygon> (last visited July 28, 2010).

art in the field of the presently appealed application without a need for the exact terms to be defined in the written description portion of the specification.

Finally, the Examiner asserts that the “objection is not directed toward a question of one’s understanding of the definitions of the above-identified limitations.” (Final Action, at 7). However, the MPEP and the Examiner’s own admissions, along with the understanding of one skilled in the art, provide further support for the conclusion that the claims are clearly supported by the specification.

For at least the foregoing reasons, reversal of Examiner’s objections is respectfully requested.

VIII. CLAIMS APPENDIX

A clean copy of the claims 1-10, 24-29, 31, 32, and 34-43 involved in the appeal is included in an extension to this Claims Appendix, which begins on page 24 of this Appeal Brief.

IX. EVIDENCE APPENDIX

None.

X. RELATED PROCEEDINGS APPENDIX

None.

XI. CONCLUSION

For at least the foregoing reasons, the final rejection of appealed claims 1-10, 24-29, 31, 32-43 set forth in the final Office action mailed November 17, 2009, should be reversed.

Respectfully submitted,

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**EXTENSION TO CLAIMS APPENDIX
CLEAN COPY OF CLAIMS ON APPEAL**

1. (Rejected) A format for optical analysis of samples, said format comprising:
an illumination input area;
an illumination light guide in optical communication with said illumination input area;
a read window disposed approximately perpendicular to a longitudinal axis of said illumination light guide;
a detection guide having one end proximate said read window and having a second end forming a detection output, said illumination light guide, said read window, and said detection guide defining a light pathway; and
an overillumination redirection component located adjacent to and in optical communication with said illumination input area and said illumination light guide, said overillumination redirection component comprising four overillumination redirection facets disposed about an outside perimeter of said illumination light guide, said overillumination redirection facets configured to direct overilluminating light away from said light pathway.
2. (Rejected) The format of claim 1 further comprising an illumination redirection facet along said light pathway between said illumination input area and said read window, said illumination redirection facet configured to redirect illuminating light along said light pathway.
3. (Rejected) The format of claim 1 further comprising a detection redirection facet along said light pathway between said read window and said detection output, said detection redirection facet configured to redirect detection light along said light pathway.
4. (Rejected) The format of claim 1, further comprising a needle extending outwardly from said format and adapted to deposit a sample onto said read window.

5. (Rejected) The format of claim 1 further comprising a dried reagent on said read window.

6. (Rejected) The format of claim 1 wherein said illumination light guide has a first cross-sectional area and said detection guide has a second cross-sectional area, said second cross-sectional area being larger than said first cross-sectional area.

7. (Rejected) The format of claim 1 wherein said illumination light guide and said detection guide are molded of a unitary piece of optically clear material.

8. (Rejected) The format of claim 1 wherein said illumination light guide and said detection guide are molded of separate pieces of optically clear material joined into a single optical format.

9. (Rejected) The format of claim 1, wherein said overillumination redirection facets are configured to direct overilluminating light approximately perpendicular to said longitudinal axis of said illumination light guide.

10. (Rejected) The format of claim 9 wherein at least two of said overillumination redirection facets are disposed at an approximately 45-degree angle from said illumination light guide.

11-23. (Cancelled).

24. (Rejected) The format of claim 1 further comprising an illumination redirection facet along said light pathway between said illumination input area and said read window, and a detection redirection facet along said light pathway between said read window and said detection output.

25. (Rejected) A format for optical analysis of samples, said format comprising:
an illumination input area;
an illumination light guide in optical communication with said illumination input area, said illumination light guide comprising four sides defining an outside perimeter of said illumination light guide;
a read window proximate to one end of said illumination light guide;
a detection guide having one end proximate said read window and having a second end forming a detection output; and
four overillumination redirection facets located proximate to and in optical communication with said illumination input area and said illumination light guide, said four overillumination redirection facets substantially surrounding said outside perimeter of said illumination light guide such that each overillumination redirection facet is adjacent to and in optical communication with a corresponding side of said illumination light guide.

26. (Rejected) The format of claim 25 wherein at least two of said overillumination redirection facets are disposed at approximately 45 degree angles from a longitudinal axis of said illumination light guide.

27. (Rejected) The format of claim 25 further comprising a needle extending outwardly from said format and adapted to deposit a sample onto said read window.

28. (Rejected) The format of claim 25 further comprising a dried reagent on said read window.

29. (Rejected) A format for optical analysis of samples, said format comprising:
an illumination input area;
an illumination light guide in optical communication with said illumination input area;
a read window disposed along a light pathway;

a detection guide having one end proximate said read window and having a second end forming a detection output, wherein said illumination light guide, said read window, and said detection guide define said light pathway; and

four overillumination facets located adjacent to and in optical communication with said illumination input area and said illumination light guide, said overillumination facets disposed at acute angles relative to said light pathway and configured to direct overilluminating light away from said light pathway.

30. (Cancelled).

31. (Rejected) The format of claim 29, wherein said read window is disposed approximately perpendicular to a longitudinal axis of said illumination light guide.

32. (Rejected) The format of claim 29 wherein said detection guide is disposed approximately parallel to said illumination light guide.

33. (Cancelled).

34. (Rejected) A format for optical analysis of samples, said format comprising:
an illumination light guide adjacent to an illumination input area, said illumination light guide having an outside perimeter;

a detection guide having a first detection end proximate a read window and a second detection end forming a detection area;

an overillumination redirection component proximate said illumination input area and substantially surrounding said outside perimeter of said illumination light guide, said overillumination redirection component comprising one or more overillumination redirection facets each disposed at an acute angle relative to a light pathway defined by said illumination light guide, said read window, and said detection guide such that said overillumination redirection component is configured to direct overilluminating light away from said light pathway.

35. (Rejected) The format of claim 34, wherein said illumination light guide has a polygonal cross-section comprising a plurality of sides that define said outside perimeter.

36. (Rejected) The format of claim 35, wherein each side borders a corresponding overillumination redirection facet.

37. (Rejected) The format of claim 34 wherein said read window is disposed approximately perpendicular to said light pathway.

38. (Rejected) The format of claim 34 wherein said overillumination redirection component is configured to direct overilluminating light approximately perpendicular to light pathway.

39. (Rejected) The format of claim 34 wherein said format further comprises an illumination redirection facet along said light pathway between said illumination input area and said read window, and a detection redirection facet along said light pathway between said read window and said detection area.

40. (Rejected) The format of claim 34 further comprising a needle extending outwardly from said format and adapted to deposit a sample onto said read window.

41. (Rejected) The format of claim 34 wherein said illumination light guide has a first cross-sectional area and said detection guide has a second cross-sectional area, said second cross-sectional area being larger than said first cross-sectional area.

42. (Rejected) The format of claim 34, wherein said illumination light guide and said detection guide are molded of a unitary piece of optically clear material.

43. (Rejected) The format of claim 34, wherein said illumination light guide and said detection guide are molded of separate pieces of optically clear material joined into a single optical format.